

Abstract of the Disclosure

Backscatter imaging using Hadamard transform masking includes an area x-ray source with alternating, masked, Hadamard transform patterns. The total backscatter signal  
5 from a target for each pair of corresponding masks is recorded. The difference in signal strengths for each pair of corresponding masks is a direct measurement of the Hadamard transform coefficient for that mask. An image of the target is formed by performing an inverse discrete Hadamard transform  
10 on the complete matrix of coefficients.